



1. Introduction

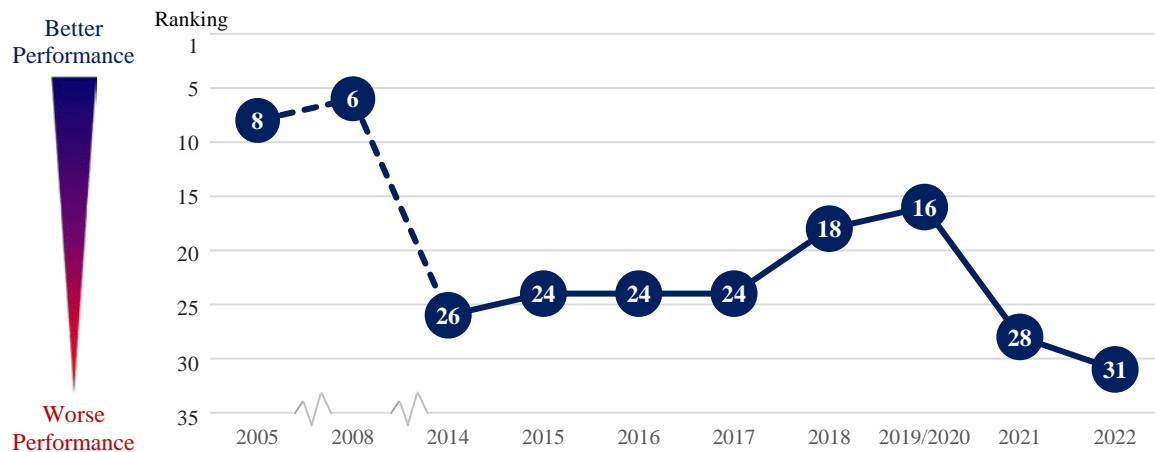
1.1 E-government has been adopted by many places for achieving better governance and improving the connection between governments and citizens/businesses¹, with a view to making life better for all. As early as 1993, the United States already started to enhance the general public’s electronic access to a wide range of government information. Fast forward to more recent years, the use of information and communication technologies (“ICTs”) in government operation has broadened further, ranging from streamlining workflows and decision-making processes and conducting online interactions with the public, to making available open government data to enable innovation. The anticipated efficiency, effectiveness, and transparency gains from digital transformation of the government operation are highlighted in **Appendix 1**.

1.2 In Hong Kong, the Government has rolled out a number of key policy initiatives over the past few years to further promote e-government development, including (a) revamping the open data policy in 2018 to drive bureaux and departments (“B/Ds”) in opening up more datasets in machine-readable formats for public use; (b) launching the mobile app, “iAM Smart”, in 2020 enabling users to access some 260 government services with a single digital identity; and (c) earmarking HK\$600 million in the 2022-2023 Budget to conduct a comprehensive e-government audit in the coming three years. Yet Hong Kong’s ranking in an international survey on e-government has turned mediocre after being more stellar in the 2000s (**Figure 1**). Against this, there have been calls for the Government to develop a set of key performance indicators (“KPIs”) to track the progress of its digitalization journey, as well as setting up a data officer for each department to coordinate the intra- and inter-departmental data management².

¹ E-government, sometimes called “digital government”, is typically defined as the production and delivery of information and services within a government and between a government and the public using a wide range of ICTs. According to the United Nations (2022), it can mean everything from “online government services” to “exchange of information and services electronically with citizens, businesses, and other arms of government”.

² See Internet Society Hong Kong Chapter (2022) and Tang (2022).

Figure 1 – Historical trend of Hong Kong in Waseda University’s ranking⁽¹⁾



Note: (1) The Institute of Digital Government of Waseda University in Japan conducts annual surveys on the progress of e-governments in advanced ICT places. According to the data available on its website, Hong Kong ranked among the top 10 in the 2005 and 2008 surveys, but then slipped outside top 10 in subsequent surveys.

Source : Waseda University Institute of Digital Government (2022).

1.3 In Asia, Singapore’s e-government development can be traced back to the government’s computerization efforts in the 1980s. By 2014 and 2018, the city respectively launched (a) the Smart Nation initiative to serve as a national strategy with mutually reinforcing plans to build a digital government, digital economy and digital society for Singapore; and (b) the Digital Government Blueprint to articulate the government’s ambitions for the digital transformation of the public sector. Apart from the guiding principles of “digital to the core” and “serves with heart” when building the city’s e-government, the 2018 Blueprint also sets 15 KPIs to govern how Singapore progresses on e-government development.

1.4 Leveraging the unique local innovation ecosystem and widespread adoption of mobile commerce/e-payment services among the general public, promoting the construction of digital government is also an important strategy on the Mainland³. In 2016, the central government initiated a new policy agenda of “Internet plus government services” to strengthen the role of the central and local governments in creating an e-government under a more “holistic, citizen-oriented approach”. In this connection, the Guangdong Province has been promoting digital government development vigorously since 2017, with the

³ E-government is also called digital government on the Mainland, and these two terms are used interchangeably in this Information Note.

formulation of a number of policy initiatives driving the use of ICTs to enhance the provincial government's service delivery and management and decision-making capabilities. The philosophy of "One-go at Most" (最多走一次), i.e. reducing the need for users to visit more than one government department for many times to handle their businesses, is exemplified in two popular one-stop mobile platforms, namely (a) "Yue Sheng Shi" (粵省事) delivering government services to citizens; and (b) "Yue Shang Tong" (粵商通) providing enterprise-related services for businesses.

1.5 At the request of Hon Nixie LAM Lam, the Research Office has prepared this *Information Note* which studies e-government initiatives and applications in selected places. This Note will first review the e-government development in Hong Kong, with respect to the rollout of various policy initiatives and administrative framework during its digitalization journey, the application of government digital services, and the challenges to the implementation of e-services. Similar experiences in Singapore and the Guangdong Province will also be studied, with specific reference to those areas to which Hong Kong might make reference in its e-government development.

2. Hong Kong

Hong Kong's e-government journey and policy initiatives

2.1 E-government was launched in Hong Kong in November 1998, when the Government promulgated the first "Digital 21 Strategy" with a programme of initiatives to make the territory a leading digital city⁴. These initiatives include the launch of the first wave of e-government focusing on "publishing information online" and "enabling e-transactions". The Government released the updated 2001, 2004 and 2008 "Digital 21 Strategy"⁵ respectively taking into account technological advancements and changing needs of the society. During the formative years, the focus of the e-government programme had shifted from the initial government-centric approach to a citizen-centric model of service delivery emphasizing customer engagement and information management.

⁴ Before that, civil service computerization began in the early 1990s. The Information Technology Services Department, newly established in 1989, provided information technology development and implementation services to other government departments. See Burn & Martinsons (eds.) (1997).

⁵ According to the Audit Commission (2018), OGCIO had not updated the Digital 21 Strategy, nor has it promulgated any new strategy to replace the Digital 21 Strategy since 2008. The 2008 Digital 21 Strategy was published on the government's website as the latest strategy.

2.2 By December 2017, it released the Smart City Blueprint for Hong Kong to build a world class smart city in six areas⁶, one of them being the development of “Smart Government” with initiatives to open up more public and private data through a one-stop data portal and develop smart city infrastructure. In December 2020, the Government released the Smart City Blueprint for Hong Kong 2.0 with more than 130 smart city initiatives. Some new initiatives under the auspices of “Smart Government” are (a) development of the Electronic Submission Hub for processing building plans; and (b) implementation of e-licensing services programme to digitalize most licensing applications before mid-2022.

2.3 In recent years, another milestone in the Government’s digitalization journey is the formulation of a new policy on opening up government data in 2018, requiring B/Ds to progressively release their data for free public use. They are required to publish annual open data plans setting out the datasets which will be released on the Public Sector Information (“PSI”) portal (Data.Gov.HK) in the coming three years and those which have already been published.

2.4 Most recently, the Government promulgated the Hong Kong Innovation and Technology Development Blueprint in December 2022 to establish a clear development path and formulate systematic strategic planning for Hong Kong’s innovation and technology development over the next five to 10 years. One of the initiatives is to expedite the building of a smart government to enhance the efficiency of government services, through acceleration of the provision of digital government services, wider application of “iAM Smart”, facilitation of data interchange and application of advanced technologies. The government initiatives launched on Hong Kong’s road to e-government development over the years are listed in **Appendix 2**.

Administrative framework for e-government development

2.5 E-government is a continuous process involving the constant effort of all government departments. It has become a common direction or practice in many places to establish a leadership and coordination mechanism within the government to lead and guide the work of all those involved in e-government development. In Hong Kong, the Office of the Government Chief Information Officer (“OGCIO”) under the Innovation, Technology and Industry Bureau

⁶ The Blueprint puts forth 76 initiatives under six smart areas for the next five years, comprising “Smart Government”, “Smart Mobility”, “Smart Living”, “Smart Environment”, “Smart People” and “Smart Economy”.

(“ITIB”)⁷ provides leadership for delivering ICT-related functions within the Government, as well as serves as a key facilitator to support other B/Ds in developing the data-driven e-government services. In addition to OGCIO, EffO of ITIB also provides e-services to the public and helps promote the adoption of ICTs by other B/Ds to improve government services.

Applications of government digital services

2.6 In addition to the implementation of policy and administrative measures to support public sector digitalization, Hong Kong also sees the e-government development through the application of ICTs to optimize the delivery of government services and information. Major initiatives introduced over the years are highlighted in the paragraphs below.

GovHK

2.7 The Government launched one-stop GovHK portal in 2007 to facilitate the public to search and access online government information and services. This was followed by the introduction of GovHK’s account-based platforms, MyGovHK, in 2010 to provide individual registered users with single access to an array of personalized e-government services.

2.8 The GovHK portal was revamped at end-2019, sporting better functionality to enhance its usability and efficiency. For example, it has assembled and provided a list of commonly used government forms and e-options, allowing users to locate the forms either by topic, such as “change address” and “apply for government jobs”, or by life events like “buying a home and moving” and “retirement”. It also includes the chatbot service Bonny and features a sharing function with which users can share information on social networking including Facebook, Twitter, Weibo and WeChat.

Open data

2.9 An open data initiative is a programme for the government to release data online in machine readable and API-ready⁸ format for public’s free consumption. The data are for use by the community to develop a number of mobile applications for providing innovative services for the public.

⁷ ITIB, formerly known as the Innovation and Technology Bureau, is responsible for formulating holistic policies relating to innovation and technology in Hong Kong. It comprises an Innovation, Technology and Industry Branch, and oversees the operation of the Innovation and Technology Commission, OGCIO, and Efficiency Office (“EffO”).

⁸ API is the acronym for Application Programming Interface, which is a software intermediary allowing two or more computer programmes to communicate with each other.

In Hong Kong, such initiative is put under the one-stop PSI portal which came into place in 2011 as a pilot scheme initially and later became a permanent platform used by the community. In September 2018, OGCIO announced a new open data policy guidelines requiring B/Ds to progressively open up more datasets on the PSI portal, while encouraging public and private organizations to participate in the initiative voluntarily. As a result, the volume of datasets released on the PSI portal increased from 3 300 in December 2018 to over some 5 130 at end-January 2023, representing a 50%-plus increase over the period.

Wi-Fi Connected City Programme

2.10 The wider availability of Wi-Fi networks facilitates the delivery of e-government services and allows multiple users to obtain the same government services simultaneously. “Wi-Fi.HK” is a common Wi-Fi brand established in 2014 by the Government and a number of public and private organizations to provide completely free of charge or time-limited free of charge Wi-Fi services to the public and visitors in Hong Kong. The number of “Wi-Fi.HK” hotspots has increased from some 5 000 since 2014 to over 46 000 today, located in government venues, telephone booths, cafes, restaurants, shops, shopping centres, tourist attractions, banks, hotels and themed buses.

iAM Smart

2.11 The Government launched the “iAM Smart” mobile app at end-December 2020, providing a reliable identity verification function for registered users to log in to their online accounts and use various public and private online services⁹, conduct online transactions, and perform “e-ME” form-filling¹⁰ and digital signing. “iAM Smart” now has over 1.6 million registered users, with 46 government departments and public organizations as well as 12 private organizations providing some 260 online services on the platform.

⁹ Public services provided include COVID-19 vaccination records and electronic testing records, eHealth, eTAX, vehicle licence renewal, application for working family allowance, etc. Meanwhile, private services available include opening of mobile bank accounts, checking of electricity and gas bills and applications for insurance.

¹⁰ Users can use the “e-ME” function to store their personalized data (such as name, gender, Hong Kong Identity Card number, date of birth, residential address, contact phone number, and billing address), and enjoy the convenience brought by auto form-filling and avoid filling in the same data for different applications.

Challenges to e-government development in Hong Kong

2.12 Since the implementation of the new open data policy in 2018, B/Ds have opened up more than 1 800 new datasets via the PSI portal covering data in various sectors¹¹. While Hong Kong performs better in data availability, there are concerns that merely driving B/Ds to publish more datasets might not be adequate to address challenges in the big data era and unlock data values. In the report “Global Data Barometer” published in 2022¹², the overall score of Hong Kong in data governance (37.5) was much lower than that in data availability (52.9) and capability (58.2)¹³. According to some stakeholders, the underperformance reflects the lack of both a pro-active framework facilitating government data sharing¹⁴ and a high-level governance structure for better coordination and leadership in e-government development¹⁵.

2.13 In addition, there are also concerns over the need for the Government to strengthen the monitoring of users’ experience when it comes to measure the performance of e-services¹⁶. Users are the core target of e-government services, and there has been a global trend for governments to conduct regular data collection to better understand the needs and expectations on the public regarding their use of e-services. In Hong Kong, the user satisfaction survey conducted by EffO only assessed the overall performance of public services, rather than provide separate results on the public’s rating of e-services¹⁷. Besides, not many government departments have arranged user opinion surveys on their websites to collect feedbacks.

¹¹ Reflecting the improvement, the overall score for the PSI Portal in the 2021/22 Hong Kong Open Data Index Report, released by the Internet Society Hong Kong Chapter, rose by 6.9 percentage points to 64.5 over a year earlier period.

¹² The Global Data Barometer measures how governments are publishing and using open data for accountability, innovation and social impact among 109 countries/regions in the world.

¹³ Data capability is concerned with whether a place has the means, connectivity, skills and institutional capacity to create, share and use data for the public good.

¹⁴ According to Global Data Barometer (2022), the government’s data-related initiatives are mostly administrative measures without legislation, except for the data privacy law – Personal Data (Privacy) Ordinance (Cap. 486) – enacted in 1996.

¹⁵ In Hong Kong, OGCIO and EffO are government departments established under ITIB. This contrast with some overseas places like South Korea and Singapore where the administrative units responsible for e-government development are accountable to the highest managerial level – the President or the Prime Minister. Regarding administrative framework for e-government development in Singapore, please see paragraphs 3.5 to 3.7 below for details.

¹⁶ See, for example, Youth I.D.E.A.S. (2018) and Internet Society Hong Kong Chapter (2022).

¹⁷ The last survey was conducted in 2019-2020 and EffO has ceased it since then.

2.14 Against the above, there have been calls for the Government to focus more on the collection, management, sharing, publishing, and utilization of data across all B/Ds, and to introduce more user-centric elements in measuring the performance of its e-services. Key policy initiatives and measures proposed by stakeholders include:

- (a) establishing a high-level government structure with clear terms of reference to lead the entire B/Ds to develop e-services. The ensuing strong leadership and execution should help facilitate the implementation of a holistic, whole-of-government approach in developing an overarching data governance framework that embodies the collaboration of all B/Ds within the Government;
- (b) introducing a legislative framework conducive to sharing of government data, as in the cases of New York City and other places where an Open Data Law has been put in place to mandate all public data be made available on a single web portal¹⁸;
- (c) setting out a clear vision and goals for data governance with a set of KPIs to track the progress in e-government implementation, covering areas such as digital take up and user satisfaction. At the implementation level, the Government may set up a data officer for each department to help develop relevant policies for effective internal and inter-departmental data management; and
- (d) enhancing the data literacy and skills of civil servants with more ICT-related training provided by the Civil Service Training and Development Institute, the Civil Service College and OGCIO to create a data-driven culture in the public sector.

3. Singapore

3.1 Singapore has ranked among the leading smart cities and e-governments in various international indices. It was named by the IMD-SUTD Smart City Index as the smartest city in the world for three consecutive years since the launch of the index in 2019¹⁹. As for the Waseda University World Digital Government Ranking Survey mentioned in

¹⁸ See Global Data Barometer (2022) and Tang (2019).

¹⁹ The Index is jointly developed by the Swiss business school Institute of Management Development (“IMD”) and the Singapore University of Technology and Design (“SUTD”). It assesses the perceptions of residents on the application of technology in their cities.

paragraph 1.2 above, the city also ranked consistently among the top four globally and first in Asia since the survey began in 2005. Added to this, Singapore came in 12th globally and 2nd in Asia in the 2022 United Nations E-government Survey²⁰.

Singapore's e-government journey and policy initiatives

3.2 The Singaporean government's digitalization transformation started over 40 years ago (see **Appendix 3** for more details). Following the Civil Service Computerisation Programme in the early 1980s to automate work functions and reduce paperwork for greater internal operational efficiencies, successive e-government masterplans were introduced in the late 1990s throughout mid-2010s, namely the E-Government Action Plans I & II, iGov2010 and eGov2015, emphasizing connectivity with private sectors and Internet-enabled services. The Smart Nation Initiative launched in 2014 not only provides a comprehensive smart city strategy to bring about digital transformation to all aspects of Singapore's urban life through three pillars of digital government, digital economy and digital society, which were each supported by its own framework document.

3.3 The six e-government masterplans published by Singapore since the early 1980s offers a sense of continuity, progressing from enhancing public service efficiency to emphasizing whole-of-government approach and then to increasing citizen/business engagement in digital transformation. All these elements could be found in the latest Digital Government Blueprint, which was launched in June 2018 and updated in December 2020 as the framework document for realizing the vision of digital government in the Smart Nation Initiative. It outlines a five-year roadmap for the transformation of Singapore's public sector into one that is "digital to the core" and "serves with heart"²¹. To achieve this, the Digital Government Blueprint sets out a six-fold strategy which entails:

²⁰ The United Nations E-Government Survey measures the effectiveness of all the 193 United Nations ("UN") members on the relative ability of their governments in harnessing ICTs to deliver online services and engage its citizens in public policies.

²¹ Achieving the "digital to the core" vision requires every government agency to digitalize end-to-end, from policy development and planning to operations management and service delivery, in order to reap the full benefits of digitalization. A digital government that "serves with heart" is one that serves citizens with greater empathy, through designing policies and services that are inclusive, seamless and personalized for all.

- (a) taking greater steps to digitally integrate services around the needs of citizens and businesses (e.g. a user-centric approach with service journey mapping to deliver government services based on citizens' needs at different life junctures and significant milestones²²);
- (b) strengthening integration between policy, operation and technology (e.g. appointment of Chief Digital Strategy Officers to lead and implement digitalization plans within their ministries and respective agencies. They also work closely with Chief Information Officers who support them from a technical perspective);
- (c) re-engineering the government's digital infrastructure (e.g. development of the Singapore Government Technology Stack which comprises a suite of shared software components and infrastructures to enable more efficient and focused building of digital applications);
- (d) operating reliable, secure and resilient systems (e.g. putting in place a cybersecurity strategy to safeguard the government's ICT and smart systems);
- (e) raising digital capabilities of public officers to work in digitally enabled workplace and to pursue innovation (e.g. establishing the Centre of Excellence for Infocomm Technology and Smart Systems to strengthen the in-house digital capabilities in the public sector); and
- (f) co-creating with citizens and businesses and facilitating adoption of technology (e.g. administering various engagement platforms to understand the service needs of citizens and businesses, co-create solutions with them, and collaborate with industry to develop new services that are well adopted).

²² For example, the service journey mapping approach proactively supports families with young children by providing them with one-stop and personalized online access to streamlined government services and information such as birth registration and early childhood services.

3.4 To implement the above vision and strategy, the Singaporean government holds itself to a set of 15 KPIs across seven main dimensions²³ that are to be achieved by end-2023 (**Appendix 4**). These measurable KPIs tracks the public sector digitalization progress, reflecting the government’s endeavour to better respond to the demand of the public for transparency and accountability.

Administrative framework for e-government development

3.5 Amid Singapore’s whole-of-government approach towards Smart Nation programmes, the Singaporean government consolidated a number of e-government related agencies in May 2017 with setting up the Smart Nation and Digital Government Office (“SNDGO”) under the Prime Minister’s Office (“PMO”).^{24, 25} More specifically, the Government Technology Agency (“GovTech”), which was formed in 2016 as a statutory board under the Ministry of Communications and Information, was subsumed under PMO to serve as an implementation agency for SNDGO. Furthermore, a central, coordinating entity – the Smart Nation and Digital Government Group (“SNDGG”) – was formed as an umbrella institution consisting of GovTech and the newly formed SNDGO.

3.6 GovTech is mandated to develop technology for the Singaporean government, as well as building and strengthening the public sector’s internal digital capabilities. The agency is also the Centre of Excellence for Infocomm Technology and Smart Systems to develop the government’s capabilities in Application Design, Development and Deployment; Cybersecurity, Data Science and Artificial Intelligence (“AI”), Government ICT Infrastructure, and Sensors and Internet of Things. Recently in June 2021, GovTech set up the Digital Academy as a technology-focused learning institute for the civil service.

²³ These comprise (a) stakeholder satisfaction with digital services; (b) end-to-end digital options (e.g. proportion of services offering digital options for signatures); (c) end-to-end digital transactions (e.g. proportion of payments completed electronically); (d) digital capabilities (e.g. number of public officers with basic digital literacy); (e) transformative digital projects; (f) Artificial Intelligence, Data and Data Analytics; and (g) commercial cloud migration.

²⁴ At the time of its establishment, SNDGO comprised staff from Smart Nation Programme Office (established in November 2014 under PMO to coordinate the work of various government agencies that were already leveraging technology to serve citizens), the Digital Government Directorate of the Ministry of Finance, and the Government Technology Policy department in the Ministry of Communications and Information.

²⁵ Reportedly, one motivation for the organizational restructuring was to accelerate the implementation of the Smart Nation initiative given the government’s recognition that the digitalization journey was not progressing as smoothly as expected at the time. For instance, according to Woo (2017), “the implementation of the various Smart Nation policy initiatives often involved multiple public agencies, with different agencies taking on a leading role in different initiatives. This often led to administrative overlaps.”

Dubbed as a “Practitioner-for-practitioner” academy in partnership with industry players like Microsoft, the Digital Academy is to groom future-ready digital leaders to be well-versed in the current and future technology landscape to accelerate the public sector’s digital transformation. At the Academy, public officers benefit from a suite of advanced ICT training programmes that are contextualized to the public service. These include programmes in data science and analysis, AI, app development, design thinking, and technical product design and management²⁶.

3.7 In October 2018, SNDGO set up the Government Data Office (“GDO”) to help Singapore better harness data as a strategic asset to build an e-government that is “digital to the core”. Specifically, GDO oversees the development of the Government Data Architecture that comprises Single Sources of Truth (“SSOTs”) and four Trusted Centres (“TCs”) to enable efficient and secure sharing and usage of data across the government. The Singaporean government has designated certain government agencies as SSOTs, vesting them the single authority to maintain and provide specific core government data fields that may be used by multiple agencies for policy making and service delivery. Government agencies requiring such data will obtain them from SSOTs instead of collecting the data themselves, avoiding duplications and inconsistencies. Meanwhile, the four TCs are entrusted with fusing data from SSOTs and sharing them across the whole-of-government in a secure and efficient way. Users who need cross-sectoral datasets will approach the relevant TCs without the need to go individually to each SSOT to ask for the data.

[Application of government digital services](#)

3.8 E-government under the Smart Nation initiative is about taking government’s digital transformation to the next level by integrating data with digitalization to build a stronger, leaner, more efficient and more responsive government²⁷. Government agencies are, thus, encouraged to utilize (a) ICTs to provide more personalized and anticipatory services; (b) data analytics to enable more evidence-based and data-driven policy making, and (c) smart systems to create a better living environment. These involve the development of agile digital applications for government services, and the rollout of meaningful stakeholder engagements upstream to better design e-services around the needs of citizens and businesses. In Singapore, the top adopted e-government applications as detailed in **Appendix 5** can be broadly classified into those:

²⁶ The Civil Service College, a statutory board under the Public Service Division of PMO, also provides foundational digital training courses to some 153 000 public officers. They learn how to apply digital skills in their work context, including the use of various digital tools to plan engagements with citizens and leverage data to achieve insightful analyses.

²⁷ See Luk & Preston (2021).

- (a) bringing about convenience to individual citizens and businesses like SingPass, LifeSG and GoBusiness;
- (b) improving the delivery of services and operation across the government agencies like OneService App; and
- (c) providing platforms to facilitate the public connecting with the government and participating in public affairs online. Examples include REACH, Ideas! and CrowdTaskSG that have been established to consult citizens and businesses, seek their feedback, and co-create digital solutions with them²⁸.

Measuring e-government performance and encouraging user engagement

3.9 Users are the core target of e-government services. From a user-centric perspective, the government should conduct regular monitoring of the performance of its websites and digital services, in order to better meet the needs and expectation of the users in the ever-changing information technology world. Singapore has introduced the Whole-of-Government Analytics Application (“WOGAA”) to monitor e-government performance in terms of both technical and quantifiable metrics as well as users’ feedback, and conducts annual e-government perception surveys to collect users’ feedback regarding their experience of visiting the government websites.

Whole-of-Government Analytics Application

3.10 Jointly developed by GovTech and SNDGO, the WOGAA platform provides a set of common metrics and measurements to enable government agencies to conduct real-time monitoring of the performance of their websites and digital services conveniently. The four key features of WOGAA are:

- (a) WOGAA Uptime – tracking daily uptime and downtime of digital services and notifying the government agencies concerned when their website become unavailable;
- (b) WOGAA Inspect – generating technical scores in the areas of Performance, Accessibility, Best Practices and Searchability/Search Engine Optimization;

²⁸ The government’s effort has helped Singapore place third in the E-participation Index of the 2022 UN E-Government Survey, which focuses on the use of online services for e-information sharing, e-consultation and e-decision making among the 193 UN member states.

- (c) WOGAA Analytics – providing an overview of how a government agency’s digital services are performing in terms of key metrics such as the total number of visitors and average time spent by visitors; and
- (d) WOGAA Sentiments – allowing government agencies to collect the feedback and the ratings from people using their websites and digital services.

Annual e-Government Perception Surveys

3.11 SNDGO and GovTech also jointly carry out annual e-government perception surveys to ascertain the level of receptivity, adoption and satisfaction with e-government services among citizens and businesses. According to the latest Surveys on Satisfaction with Government Digital Services for Citizens and Businesses, 85% of citizen respondents stated that they were either very satisfied or extremely satisfied with the government’s e-services in 2021. The corresponding figure for company respondents was also at a high of 76%. In addition, 98% of citizen respondents agreed that they would recommend or encourage their family and friends to use government digital services, and so would 97% of company respondents for their colleagues and friends.

User engagement

3.12 In order to develop e-government services that cater to citizens’ and businesses’ specific needs and thereby drive adoption²⁹, GovTech has developed a couple of initiatives to facilitate regular engagement with end-users to explain the digital policies, gather feedback, seek new ideas on how to serve them better, and co-create digital solutions and services with them.

3.13 Tech Kaki was first launched by GovTech in 2016 to engage a citizen community in designing, building and using digital solutions and services, thereby ensuring these solutions/services can meet the needs of citizens and businesses. The Tech Kaki end-user community is made up of members from all walks of life who are motivated to help create tech for public good. They work alongside GovTech teams in focus group discussions and user-testing

²⁹ As the success of e-government relies upon the perception of the citizens upon the utilization of new technologies that could improve their quality of life, the co-creation policy plays an important role in enhancing the likelihood of the projects’ success due to the “citizen-centric” approach. See Valeria (2020).

sessions to provide feedback on GovTech’s current and upcoming digital products and services.

3.14 In October 2018, SNDGG implemented another citizen engagement programme, the “Smart Nation Co-creating with Our People Everywhere” (“SCOPE”), to engage the public during early stages of product development. Trial versions of digital products are tested with end-users to gather their feedback, and product improvements and redesigns will be done iteratively to address user feedback and problems identified. Since 2018, 29 SCOPE surveys have been conducted and more than 83 000 citizens have provided feedback on 26 digital government projects.

4. Guangdong Province

4.1 Promoting the construction of Digital China is an important strategy formulated by Mainland authorities to drive the transformation of industrial production, lifestyles and governance as a whole through the application of digital technology and data analytics. With e-government as part of the Digital China construction, the central government has initiated a policy agenda of “Internet plus government services” since 2016 to improve the governance efficiency and enrich government-citizen/business interactions with the support of digital technology. This involves the development of an e-government platform across the Mainland that makes public services always accessible online, and that provides users with a single access to an array of personalized online services. Reflecting its digitalization effort in recent years, China ranked 43rd in 2022 in the United Nations E-Government Survey, up 20 places from 2016.

4.2 Under the agenda of “Internet plus government services”, local governments have established their respective one-stop online platforms that seek to merge public services of all government departments in one portal. This allows citizens and enterprises to handle their government business online (一次不用跑), or visit the government no more than once for a particular service under “One-Go at Most”³⁰. According to the Assessment Report on the Integrated Government Services Capacity of the Provincial Governments and Key Cities³¹, the Guangdong Province was placed among the leading provinces

³⁰ Local governments have put in place their respective integrated data management systems, where individual departments can collaborate and share information with each other when processing applications for government services that requires multiple authorities to handle jointly. Citizens and enterprises are, thus, no longer required to communicate with different departments to get their services done.

³¹ See 中共中央黨校(不同年份).

in 2022 after being ranked first for the third consecutive year in 2021. This ranking reflects, among other things, the provincial government's continuous effort in the integration of various online and offline public services and the launch of one-stop e-services that bring benefits and convenience to the general public.

Guangdong's e-government journey and policy initiatives

4.3 The Guangdong Province initiated e-government development in December 2017, when the provincial government held a work conference to examine and adopt the Guangdong "Digital Government" Reform and Construction Programme. In May 2018, the province launched the "Yue Sheng Shi" app that brings together frequently used livelihood services provided by different levels of government in the province into one platform. The digital reform of government services thereafter has not limited to single-handed advancement of "Yue Sheng Shi", but it is also integrated with the launch of other apps to form a comprehensive "Guangdong Series" of government service platforms.

4.4 The Guangdong Province also sees the delivery of e-government initiative through the commitments the provincial government made in its Work Reports to accelerate the public sector's digitalization efforts, as well as via the policies and guidelines issued to set the direction for the future development of e-government in the province. These policy commitments and initiatives, as listed in **Appendix 6**, aim to:

- (a) optimize the "one network unified access of government services" (政務服務“一網通辦”) – constructing a one-stop portal to provide citizens and businesses with a single point of access to electronic services and information offered by different government departments;
- (b) promote the "one network unified management for provincial governance" (省域治理“一網統管”) – integrating various data resources of public administration and building an integrated platform for government operation, where all administrative activities are overseen, all instruments are given, and all decisions are made throughout the whole province. The integrated platform covers three levels of province, municipality and county, and achieves five levels of coverage of provincial, municipal, county, township and village services; and

- (c) strengthen the “one network collaboration of government operation” (政府運行“一網協同”) – developing an integrated mobile office platform for all public officials in the Guangdong Province, allowing them to make use of digital tools in day-to-day work to achieve cross-regional, cross-level and cross-departmental government affairs collaboration; and
- (d) accelerate the delivery of cross-provincial government services (跨省通辦) – allowing citizens and enterprises to apply for cross-provincial government services through online application or by a single visit to the nearest government office, without the need to personally submit their application to the relevant authorities of the province where the government services will be provided³².

Administrative framework for e-government development

4.5 Instead of implementing the e-government initiative solely through its own departments or units, the Guangdong provincial government has entered into collaborations with private and state-owned enterprises. In October 2017, it sought to integrate the resources of Tencent and the Mainland’s top three state-owned telecom operators and engaged them to established a joint venture – Digital Guangdong Network Construction Company Limited (“Digital Guangdong”)³³. Digital Guangdong is tasked with the building and operation of the digital government, whereas the government departments are entrusted with the managerial responsibilities. This represents an operating model of “government-enterprise cooperation and management-operation separation” (“政企合作、管運分離”), which has helped contributed to increased financial resources and reduced government expenditure in the e-government development in the province.

³² For example, the marriage registration used to be done only at the place where one of the applicants has his or her household registration. With the “cross-provincial government services”, marriage registration can now be done in the place where one of the applicant’s permanent residence is located or where he or she usually resides.

³³ Tencent owned 49% of the joint venture upon its establishment, whereas China Mobile, China Telecom and China Unicom jointly owned the remaining 51%.

4.6 In October 2018, the Guangdong Province went further ahead to establish the Guangdong Provincial Government Service Data Administration Bureau³⁴ responsible for implementing policies and plans on digital government across the province³⁵. These include the integration of online government services, big data management and other functions used to be undertaken by different government departments in a move to solve the issues of overlapping management and multiple leadership in e-government development.

4.7 In addition to the above, the Guangdong Province is the first province to roll out a draft law in May 2021 to pilot a Chief Data Officer system in six provincial bureaux and 10 cities. The responsibilities of a Chief Data Officer include promotion of digital government, coordination of innovative data management and integration, supervision of the government digitalization projects, and talent build-up.

Application of digital government services

4.8 In recent years, the Guangdong Province has set off a “fingertip revolution” in government operation through the launch of “Guangdong Series” platforms where government information and services are easily accessible to users on their mobile devices. These platforms, as detailed in **Appendix 7**, can be broadly classified into those:

- (a) allowing citizens and businesses to easily transact with the government, like Yue Sheng Shi, Yue Shang Tong, Yue Zhi Zhu (粤智助) Yue Sheng Xin (粤省心) and Yue You Hang (粤优行) featuring “one network unified access of government services”;
- (b) enabling public officials to make use of digital tools in their day-to-day work, like Yue Zheng Yi (粤政易) characterized by “one network collaboration of government operation”; and
- (c) serving as a comprehensive integrated platform to achieve coordinated provincial governance, like Yue Zhi Hui (粤治慧) with “one network unified management for provincial governance”.

³⁴ Governance Service Data Administration Bureaux have also been established at the city and county government levels. See China.org.cn (2019).

³⁵ See Chinese Academy of Cyberspace Studies (various years).

Measuring e-government performance

4.9 In February 2020, the provincial government issued the “Measures for Administration of the Good and Bad Reviews of Guangdong’s Provincial Government Services” to establish an online evaluation system – the Good and Bad Reviews – covering all government service systems, telephone hotlines and terminals. The review is to ensure that each government service is subject to review, and each platform and service provider (the administrative units and staff involved) can be evaluated. The Good and Bad Reviews adopts a five-point scale, with the scores of 0 (extremely dissatisfied), 3 (dissatisfied), 6 (basically satisfied), 8 (satisfied), and 10 (very satisfied). Administrative units receiving the “dissatisfied” or “extremely dissatisfied” evaluation must respond as soon as they get the negative feedback and contact the party that submitted the response. They are also required to make appropriate correction within a time limit if the criticism is found to be legitimate.

4.10 There are also online surveys measuring the performance of various provinces and municipalities in terms of the quality of their online government services, serving as a tool for them to learn from each other and identify areas of strengths and challenges in e-government development. For example, the annual Digital Government Service Capability Assessment and the Government Website Performance Appraisal, conducted by the Ministry of Industry and Information Technology, ranks the provinces as outstanding, excellent, good or developmental state. The Guangdong Province was ranked alongside Shanghai and the Zhejiang Province as the excellent provinces in the 2021 assessment. Added to this, there is also an annual assessment conducted by the Party School of the Central Committee of the Community Party of China to evaluate the integrated government service capacity of various provinces in the Mainland. As mentioned above, the Guangdong Province ranked first for three consecutive years in 2021 and remained among the top-performing provinces in 2022.

5. Concluding remarks

5.1 In Hong Kong, “smart government” has been identified alongside other thematic areas like “smart mobility” and “smart living” as priority for developing the territory into a world class smart city. Meanwhile, Singapore has formulated dedicated e-government blueprints since the early 1980s, and lately has highlighted two core messages of “digital to the core” and “serves with heart” to guide the city’s e-government development. Similarly in the Guangdong Province, the provincial government has since 2017 devoted continuous specific effort to promote digitalization of government services, and

accelerated the efforts with a succession of policy commitments made and policy guidelines issued.

5.2 In terms of leadership, Singapore has put the administrative units responsible for e-government development directly under the highest authority of the executive branch, the Prime Minister. The establishment of the Digital Academy for enhancing the digital capabilities of public officers, is another distinct element. As a technology-focused learning institute for the civil service, the academy is in partnership with industry players including Microsoft and provides advanced digital training in areas like data science, apps development, and product management.

5.3 Meanwhile, there is a global trend towards strengthening the influence of user experience in designing e-government services, particularly understanding their needs and expectations. In Hong Kong, the user satisfaction survey conducted by EffO only assessed the overall performance of public services, instead of providing separate results on the public's rating of e-services; for the Guangdong Province, it administers an online evaluation system, the Good and Bad Reviews, where the public can rate the e-government services received and the related service providers and platforms, and any negative user feedback found to be legitimate would lead to rectification of criticized services provided by the administrative units concerned; Singapore likewise carries out an annual E-government Perception Survey to determine the level of receptivity, adoption and satisfaction that citizens and businesses have with e-government services, on top of user feedback canvassed via the WOGAA platform. In addition, Singapore and the Guangdong Province appear to have taken co-creation up another notch: Singapore has developed initiatives such as Tech Kaki and SCOPE to facilitate regular engagement with end-users in the development and use of its digital products and services, ensuring that these are designed to meet the needs and expectations of citizens and businesses; for the Guangdong Province, the provincial government bases its e-government development on "government-business collaboration", with the government assuming the management and oversight responsibilities and the private sector being put in charge of the building, and operation of the "digital government".

5.4 As to the application of e-government services, the Guangdong Province is more comprehensive than Hong Kong in the scope of services provided. For example, Hong Kong's "iAM Smart" mobile app only has some 260 functions, whereas a similar app in the Guangdong Province – Yue Sheng Shi – has 2 500-plus functions. In comparison, Singapore is innovative in developing agile digital applications that not only bring convenience to the public, but also facilitate the operation across the government and the connection of the public with the government. For example, OneService App allows

residents to report municipal issues for follow-up without having to identify the government agencies or town councils responsible, and REACH, Ideas! and CrowdTaskSG provide public engagement platform to consult the public and seek their feedback³⁶.

³⁶ For example, ministries and agencies will post their public consultation papers on REACH's Public Consultation Portal for members of the public to comment. In Hong Kong, there is no centralized electronic platform in pooling all consultation papers together and to receive public feedback for more effective two-way communications.

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Benefits from digitalization of government operation (e-government)

	Benefits from e-government
Efficiency	<ul style="list-style-type: none"> • E-government can increase operational and managerial efficiency of a government through digital transformation to enable various public resources to be saved or allocated more efficiently. • Governments can expect a substantial reduction in operational and labour costs from automation/computerization of existing paper-based procedures. Public employees can speed up repetitive and predictable government tasks, allowing them to concentrate on more critical and meaningful tasks. • E-government also reduces administrative burdens on citizens and businesses by making their interactions with the government faster and more convenient than before through less red-tape and easier access to government services and information.
Effectiveness	<ul style="list-style-type: none"> • AI technologies enables more detailed assessment and precise identification of problems and better prediction of trends, which in turn contributes to better resource allocation, decision making and provision of personalized services. Effectiveness enhanced by e-government boosts citizen satisfaction and trust in government. • Public employees also benefit from digitalization of government operation with ready access to data and information to measure the effectiveness of policies and interventions implemented. They could also better coordinate with their colleagues across different agencies and respond as “one government” to solve complex problems in a more coordinated manner than was previously possible.
Transparency	<ul style="list-style-type: none"> • Digital government is a lever to increase the transparency of government action. It emphasizes open data (e.g. public data platforms), freedom of information (e.g. more convenient access to government information via mobile government), and citizen engagement and participation (e.g. e-petitions and online surveys/consultations). Government effort towards transparency and openness can contribute to higher citizen trust in government accountability and policy legitimacy.

Source: Sung et al. (2020).

Hong Kong's e-government journey

Period	Policy initiatives to drive e-government
November 1998	Launch of the Digital 21 Strategy (“Strategy”) to initiate the first wave of e-government focusing on “publishing information online” and “enabling e-transaction”
October 2000	Introduction of the Electronic Service Delivery Scheme under which the public can access government services online through personal computers, public information kiosks and other electronic means
May 2001	Issue of an updated Strategy to position Hong Kong as a leading digital city in the globally connected world, with building e-government as one of the main areas of focus
August 2001	Setting up of E-Government Coordination Office under the then-Information Technology and Broadcasting Bureau (“ITBB”)
February 2002	Publication of a booklet, “E-government Benefits Us All”, by ITBB to enhance the public understanding of e-government development in Hong Kong
March 2004	Release of another updated Strategy to launch the next wave of e-government focusing on integrating and transforming e-services
July 2004	Establishment of the Office of the Government Chief Information Officer (“OGCIO”) to drive e-government development within bureaux and departments (“B/Ds”)
September 2004	Setting up of a high-level E-government Steering Committee chaired by the Financial Secretary
August 2007	Launch of GovHK as a one-stop portal for online government services and information sought frequently by the general public
December 2007	Issue of the 2008 Digital 21 Strategy with “enabling the next generation of public services” as one of its five action areas
December 2009	Launch of a revamped GovHK portal with a new look and new functions
December 2010	Inception of MyGovHK as a personalized interface developed on the GovHK portal, allowing users to access public services through a personalized webpage with a single username and password

Hong Kong's e-government journey

Period	Government's policy initiatives
March 2011	Launch of Data.One portal to facilitate a wider dissemination of Public Sector Information ("PSI") for value-added re-use by the public
September 2013	Release of the 2014 Digital 21 Strategy consultation document with the theme of "Smarter Hong Kong, Smarter Living"
March 2015	Launch of a new PSI portal, "Data.Gov.HK", to replace the Data.One portal to encourage more creative re-use of data
November 2015	Setting up of the Innovation and Technology Bureau ("ITB") for formulating holistic policies relating to innovation and technology
October 2017	Commitments made in the then-Chief Executive's Policy Address to initiate the provision of electronic identity (now renamed "iAM Smart" platform), implement the Next Generation Government Cloud Infrastructure and release more government data for public use
December 2017	Release of the Smart City Blueprint for Hong Kong with 76 initiatives under six smart areas to map out the Government's plan for smart city development up to 2022 and beyond
September 2018	Issuance of guidelines on the new open data policy by OGCIO requiring all B/Ds to progressively open up their data under the "Data.Gov.HK" portal for free use by the public
December 2020	<p>Release of the Smart City Blueprint for Hong Kong 2.0 setting out over 130 smart city initiatives</p> <p>Launch of "iAM Smart" as a one-stop personalized digital services platform enabling users to log in and use online services through their personal mobile phone</p>
March 2022	Allocation of HK\$600 million in the 2022-2023 Budget to conduct a comprehensive e-government audit for the information systems and services of B/Ds with a view to accelerating digital government development
July 2022	Renaming of ITB as the Innovation, Technology and Industry Bureau
December 2022	Release of the Hong Kong Innovation and Technology Development Blueprint to set out a clear roadmap for Hong Kong's innovation and technology development with four broad development directions and eight major strategies

Sources: Various government websites and Information Services Department (various years).

Timeline of Singapore's e-government policy initiatives

Launch period	National ICT plan ⁽¹⁾	E-government masterplan
1980	National Computerisation Plan (1980-1985) to computerize the civil service, grow local IT industry and develop a pool of IT manpower	Civil Service Computerisation Programme (1980-1999) (“CSCP”): <ul style="list-style-type: none"> • CSCP initially started with the focus on improving public administration through the effective use of infocomm in accordance with the National Computerisation Plan • Over time, CSCP evolved into extending the government’s computerized systems into the private sector as envisaged in the National IT Plan • In the early 1990s, emphasis had shifted towards embracing the emergence of the Internet with a focus on connectivity and Internet-enabled services pursuant to the IT2000
1986	National IT Plan (1986-1991) to extend electronic data transfer network from the government to the private sector	
1992	IT2000 (1992-1999) to transform Singapore into an “intelligent island”, emphasizing the shift towards the consolidation of computing resources in the form of a shared data centre and a civil service-wide network	
2000	Infocomm 21 (2000-2003) to develop Singapore into a global Infocomm Capital with highly networked economy and society	E-Government Action Plan I (2000-2003) with the vision of making Singapore one of the leading e-governments in the world, centring on strategic thrusts like re-inventing government in the digital format and delivering integrated electronic services
2003	Connected Singapore (2003-2006) to unleash potential for infocomm to create new values, release possibilities and enrich lives	E-Government Action Plan II (2003-2006) to achieve three desired outcomes of Delighted Customers, Connected Citizens and Networked Government; the focus was to deliver accessible, integrated and value-added services to customers and help bring citizens closer together

⁽¹⁾ Singapore has so far launched seven national ICT plans to support six e-government masterplans. For example, CSCP was supported by three national ICT plans – the National Computerisation Plan (1980-1985), the National IT Plan (1986-1991), and the IT2000 (1992-1999).

Timeline of Singapore's e-government initiatives

Launch period	National ICT plan	E-government masterplan
2006	<p>Intelligent Nation 2015 (2006-2015) to reaffirm the strategic role that ICTs will play in achieving the vision of building Singapore as An Intelligent Nation, a Global City, leveraging ICTs for innovation, integration and internationalization</p>	<p>iGov2010 (2006-2010) and eGov2015 (2011-2015):</p> <ul style="list-style-type: none"> • iGov2010 to achieve a more integrated government through the use of ICTs. Backend processes were integrated across government agencies to provide more customer-friendly frontline services delivery • eGov2015 to usher in a shift in the delivery of government e-services from a top-down “Government-to-you” system to a “Government-with-you” approach; this approach encouraged collaboration between the government, citizens and private sector in order to create value for Singapore
2015	<p>Infocomm Media 2025 to set directions guiding the growth of Singapore's infocomm and media sector for the next 10 years; it aims to create a globally competitive infocomm and media ecosystem that enables and complements Singapore's Smart Nation vision</p>	<p>Digital Government Blueprint (2018-2023) to better leverage data and harness new technologies to create an e-government that is “digital to the core” and “serves with heart”</p>

Sources: Various government websites.

Key Performance Indicators for building an e-government in Singapore

	Key Performance Indicator	By 2023
Stakeholder Satisfaction		
1	Citizen Satisfaction with Digital Services (via survey)	75-80% to rate very satisfied
2	Business Satisfaction with Digital Services (via survey)	75-80% to rate very satisfied
End-to-End Digital Options		
3	Services that offer e-payment options	100%
4	Services that are pre-filled with government-verified data	100%
5	Services that offer digital options for wet ink signatures	100%
End-to-End Digital Transactions		
6	Percentage of transactions completed digitally from end-to-end	90-95%
7	Percentage of payments completed via e-payments	100%
Digital Capabilities		
8	Number of public officers trained in data analytics and data science	20 000
9	Number of public officers with basic digital literacy	All public officers
Transformative Digital Projects		
10	Number of transformative digital projects	30-50 projects
AI, Data and Data Analytics		
11	Percentage of Ministries and their related agencies (“Ministry families”) that use AI for service delivery or policy making	All Ministry families to have at least one AI project
12	Number of high-impact data analytics projects	10 cross-agency projects per year, and 2 projects per Ministry family per year
13	Core data fields in machine readable format, and transmittable by APIs	90-100%
14	Time required to share data for cross-agency projects	No more than 7 working days
Commercial Cloud Migration		
15	Percentage of eligible government systems on commercial cloud	70%

Source: Smart Nation Singapore (2022).

Top adopted e-government applications in Singapore

A5.1 Singapore has implemented a portfolio of e-government services focusing on meeting the need of citizens and businesses and opening up new opportunities for the public participation. These include:

SingPass family of applications

A5.2 Singapore Personal Access (“SingPass”) is a personal authentication system launched in 2003 to provide users with a single password to access various government services online. Over years of enhancement, it has now become the national digital identity (“NDI”) that provides a convenient and secure platform for users to transact with the government and private service providers. NDI, underpinned by SingPass, has brought together the following family of applications for citizens and businesses:

- (a) **SingPass app** allows users to log in to over 2 000 government and private sector services online using their biometrics (fingerprint, facial recognition, etc.) or 6-digit passcodes. The “sign” function built within SingPass app enables users to digitally sign documents and contracts, removing the need for physical presence and paper-based signing. At present, SingPass is used by more than 4.5 million users, covering 97% of Singapore Citizens and Permanent Residents aged 15 and above;
- (b) **Myinfo** provides a “tell-us-once service” that auto-fills selected personal details for online forms after users have successfully authenticated their identity via SingPass and provided their express consent. This minimizes the need for them to repeatedly provide and verify the same information when transacting online. To date, more than 800 digital services offered by government agencies and businesses have been onboarded to Myinfo; and
- (c) **Myinfo business**, an extension of the Myinfo platform that includes corporate data, allows business users to leverage on SingPass to share their corporate and relevant personal data securely with participating businesses for more seamless digital transactions. To date, Myinfo business enables over 190 digital services and facilitates an average of over 500 000 monthly transactions for public and private sectors.

LifeSG

A5.3 Initially launched in 2018 as “Moments of Life”, LifeSG was rebranded in 2020 to provide a one-stop access to more than 100 government services and information for citizens. This app is built on a service journey approach characterized by organizing the delivery of government services and information around a citizen’s important life moments or needs at particular stages of his or her life, removing the need for different touchpoints for different services/information under separate government agencies. For example, LifeSG supports active ageing by bundling related government benefits, events and programmes for seniors into one convenient app. For the parenthood journey, LifeSG gives parents and newborns the best start by bringing birth registration and all relevant government support into one app⁽¹⁾. LifeSG had more than 1.2 million users at August 2022.

GoBusiness

A5.4 GoBusiness, launched in October 2019, is an online platform connecting business owners to various government e-services and resources. Via GoBusiness, users can log in to GoBusiness Dashboard or GoBusiness Licensing to receive personalized recommendations of the licences and permits that are most relevant for their businesses. Its another feature, the Business Grants Portal, brings government grants for businesses into one place. Users can apply for government grants according to their needs without having to approach multiple agencies. GoBusiness’ most recent feature, GoBusiness Gov Assist, was launched in August 2020. This 24/7 online service guides businesses to the most relevant government assistance schemes via answering a short questionnaire on their business needs and profile. This reduces the time needed for browsing multiple agencies’ websites to obtain the relevant information, and improves the overall user experience in seeking support.

⁽¹⁾ These include applying for Baby Bonus, locating childcare centres or preschools nearby, access to child’s immunization records and medical appointments.

OneService App

A5.5 Municipal Services Office (“MSO”)⁽²⁾ is leveraging big data and digitalization to transform the municipal feedback reporting process. Residents who encounter a municipal issue can snap a picture and submit their feedback (e.g. a short description of the case) on MSO’s OneService App⁽³⁾. AI is then applied to the information collected from the app (text, images, and geolocation) and the feedback is automatically routed to the relevant operational agencies for their follow-up.

A5.6 Through OneService App, residents now have one touchpoint for reporting their municipal concerns without having to identify the government agencies or town councils to contact. They are also able to track the progress of their cases via the History tab. The app also helps the coordination of municipal services, as the government agencies now have a better understanding of ground issues, spend less time re-routing cases among themselves, and are more efficient at resolving municipal concerns. Reflecting the receptiveness to OneService App, the number of people using the app increased 10-fold since its inception in 2015 to more than 430 000 users as at March 2022.

REACH

A5.7 The Singaporean government has created an e-engagement platform to facilitate active public consultation and open governance. REACH is a consultation platform that collects input from Singaporeans on national and social issues raised by government agencies on the platform.⁽⁴⁾ It reaches out to Singaporeans through both traditional and online channels, including email, online feedback form, REACH WhatsApp Interactive Chat Group, REACH Facebook, Instagram and Twitter. All feedback sent to REACH, regardless of the sentiments expressed, is read by REACH staff. They will then convey the feedback, in its entirety, to the relevant ministries and agencies for consideration in their review of policies and issues.

(2) MSO was set up on 1 October 2014 to improve the government’s overall coordination and delivery of municipal services. It works with its partners – government agencies and Town Councils – to improve feedback management and service delivery for these municipal services.

(3) Using an issue-based approach, the OneService App covers common categories of municipal issues such as “Cleanliness”, “Pests”, “Parks and Greenery”, “Road and Pathways”, “Illegal Parking”, “Animals & Birds” and “Facilities in HDB”. HDB or the Housing and Development Board, is the public housing authority in Singapore.

(4) For example, ministries and agencies will post their public consultation papers on REACH’s Public Consultation Portal for the public to comment.

Ideas!

A5.8 Ideas! is a crowdsourcing platform where the public can participate and share ideas and solutions⁽⁵⁾. Via the platform, each government agency can independently organize and manage crowdsourcing activities in the form of challenges, such as contests for idea generation, app development competitions and hackathons, to solve problems and issues that Singaporeans might be facing. Citizens are invited to submit ideas to these challenges, and to view, comment and vote on the ideas submitted by other members of the public.

CrowdTaskSG

A5.9 CrowdTaskSG is a newly created web portal for government agencies to engage citizens and gather their insights to national issues through crowdsourcing tasks. These tasks include surveys, questionnaires and opinion polls. For every task completed, participants can earn virtual coins that can be used to redeem rewards such as vouchers. Insights gathered from CrowdTaskSG will be used by government agencies in product or policy creation.

⁽⁵⁾ Crowdsourcing is a sourcing model that involves obtaining needed ideas, information, services, finances or other inputs by soliciting help from an undefined, generally large group of people on the Internet.

Policy commitments and initiatives to drive e-government development in the Guangdong Province

December 2017	Guangdong publishes the “Digital Government Reform and Construction Programme” to promote the integration of government information systems, break down “information silos”, and take the lead in creating a “digital government” in the Mainland
January 2018	The 2018 Government Work Report seeks to accelerate the construction of digital government through measures such as building a unified and secure government affairs cloud platform, realizing data sharing, and optimizing the delivery of public services
October 2018	Guangdong issues the “Guangdong Provincial Digital Government Construction Master Plan (2018-2020)” aiming to develop a comprehensive digital governance system with horizontal connections among the provincial government authorities and vertical connections between the central and local government authorities
January 2020	The 2020 Government Work Report pledges to advance the reform and development of digital government, push forward the uploading of data to the cloud platform, and deliver public service down to the community level
February 2020	Guangdong announces the “Key Points for the Reform and Construction of Guangdong Digital Government in 2020” which proposes strengthening the application of new technologies such as blockchain in the field of government services and enhancing the basic capabilities of digital government
December 2020	Guangdong publishes the “Work Plan to Accelerate Promotion of Inter-provincial and Intra-provincial One-Stop Administrative Services” to ensure citizens and businesses to receive intra- and cross-provincial government services ⁽¹⁾
January 2021	The 2021 Government Work Report aims to accelerate the integration of online and offline government affairs platforms, and expand the “Guangdong Series” of government service platforms to allow more high demand services to be accessible at fingertips

⁽¹⁾ People can apply for a government service in a province other than the province where the service is provided. The applicant can submit his or her application online or at the “cross-provincial government services” window at the government service hall of his or her residing province. The relevant authorities shall review the supporting documents submitted and verify the identity of the applicant, and then send the application to the province where the government service will be provided for approval.

Policy commitments and initiatives to drive e-government development in the Guangdong Province

April 2021	Guangdong issues the “Key Points for the Reform and Construction of Guangdong Digital Government in 2021” covering six major areas and 30 tasks to develop an innovative digital government.
June 2021	Guangdong promulgates the three-year action plan of “one network unified management for provincial governance”, with an objective of promoting deep integration of information technology and governance on the provincial level
July 2021	Guangdong announces its first five-year plan for the reform and construction of digital government to provide support for the province’s high quality economic and social development in the era of digital economy: Guangdong will achieve five national first by 2025 with taking the lead in digital government services, provincial governance, government operation efficiency, public data utilization, and basic support abilities of digital government
January 2022	The 2022 Government Work Report aims to upgrade the “One Cloud Platform and One Network” structure of the whole province, expand the scope of cross-provincial government affairs, and better the functions of “Guangdong Series” of government service platforms
February 2022	Guangdong issues the “Key Points for the Reform and Construction of Guangdong Digital Government in 2022” clarifying the tasks and measures for building a digital government in six aspects. These include, among others, (a) improving the public data management and operation system (e.g. setting up a new Chief Data Officer system); and (b) optimizing the government service mechanism (e.g. deepening the application of “Guangdong Series” platforms)
July 2022	Guangdong publishes the “Guidelines for the Development of Digital Economy in Guangdong Province 1.0” as the first guiding document to promote the development of the digital economy in the province. It proposes strengthening the “three-network integration” to form an integrated platform for public service delivery and management, decision-making and command ⁽²⁾

⁽²⁾ This means optimizing “one network unified access of government services”; “one network unified management for provincial governance”; and “one network collaboration of government operation”.

Guangdong Series of government service platform

A7.1 In recent years, the provincial government has strengthened the application of the “Guangdong Series” of government services platforms to support (a) one-stop service to citizens and enterprises (via Yue Sheng Shi, Yue Shang Tong, Yue Zhi Zhu, Yue Sheng Xin and Yue You Hang); (b) a mobile office platform for public officials in the Guangdong Province (Yue Zheng Yi); and (c) a comprehensive platform for the governance of the whole province (Yue Zhi Hui).

Yue Sheng Shi

A7.2 Yue Sheng Shi is essentially a one-stop portal to help citizens obtain government services online, without travelling in-person to relevant government departments multiple times to get the services done. The functions made available on the platform include paying for traffic tickets, applying for birth certificates, scheduling government appointments, and renewing passports and visas, on top of those related to health insurance, social security and labour arbitration. As at October 2022, Yue Sheng Shi had some 180 million real-name registered users. A total of 2 505 frequently used public services could be assessed online, of which 1 097 services could be handled without visiting the relevant government departments.

Yue Shang Tong

A7.3 Yue Shang Tong, officially launched in August 2019, integrates high demand enterprise-related services provided by various government departments into one app. Enterprises can enjoy the smooth experience of one-stop services by simply logging in to the app through mobile phones. The services made available on the platform include company registration, investment project approval, corporate reporting, tax declaration and payment, and application for business licences, government subsidies and electricity supply. These services are packaged in the form of eight theme areas from an enterprise’s perspective, covering “opening a business”, “running a business”, “looking for government policies”, “making demand”, “checking credit”, “recruiting talent”, “financing”, and “expanding business opportunities”. As at August 2022, the cumulative registered users of Yue Shang Tong reached 12.6 million and they could access 2 873 enterprise-related services on the platform.

Yue Zhi Zhu

A7.4 In 2021, the Guangdong Province started to deploy Yue Zhi Zhu in administrative villages across the province to make up for the shortfall in the provision of government services in rural areas. These self-service kiosks provide integrated government services to the residents, saving them the hassle of leaving their village and travelling to the town to get the services done. As at September 2022, the provincial government had installed 41 873 Yue Zhi Zhu kiosks in all administrative villages in the province. A total of 273 high demand government services, such as printing of certificates, provident fund and social security enquiry, and online registrations and appointments, had been made available for more than 15 million users.

Yue Sheng Xin

A7.5 Yue Sheng Xin, established in June 2021, is a platform composed of a telephone hotline and supporting website/app for the provincial government to (a) receive feedback from the public and channel their discontent to the appropriate departments for follow-up; and (b) help people solve their livelihood issues. The telephone hotline – 12345 – offers the public 24/7 one-stop shop service with one easily-memorized phone number⁽¹⁾. As to people’s livelihood issues, Yue Sheng Xin makes accessible to a wide array of government services on its website/app, covering provident fund, social security, household registration, transportation, business start-up and other services that citizens and enterprises are most concerned about. To better serve citizens’ needs, the website/app is also linked to Guangdong Government Service Network⁽²⁾ and other “Guangdong Series” platforms.

(1) The “12345” telephone hotline integrates various government hotlines into one as a unified service window to answer citizens’ calls 24 hours a day. It accepts all kinds of non-urgent matters initiated by callers including enquiries, suggestions, requests or complaints related to government services.

(2) Being the provincial government portal, the Guangdong Government Service Network comprises government service items on the province, municipality, county, town and village levels, and provides all the frequently used services for individuals and enterprises to facilitate the “one-site for all” provincial government services.

Yue You Hang

A7.6 Yue You Hang is the first in-vehicle-based mobile government services platform in the Mainland. It is piloted in intelligent connected vehicles with the installation of a vehicle-mounted screen that can display a total of 25 high-demand service items in four major areas, namely government services (e.g. medical insurance and social security enquiry), driver and vehicle licence information, navigation information (e.g. weather forecast and road closures), and medical and epidemic prevention (e.g. showing medium- and high-risk areas).

Yue Zheng Yi

A7.7 Yue Zheng Yi provides mobile communication and unified work portal services for public officials in the Guangdong Province. They can take advantage of this collaborative office platform in their day-to-day work, including (a) daily communications through the online address book and instant messaging; (b) document management with the use of electronic circulation of government documents to reduce the administrative burden of paper-based distribution; (c) video conferencing through the audio and video application – Yue Shi Hui (粵視會); (d) online training via the Guangdong Internet Academy (廣東網院) platform; and (e) work idea exchange and experience sharing in the group chat. As at end-September 2022, the number of daily active users of Yue Zheng Yi exceeded 1.6 million and some 1 100 government service applications were available on the platform.

Yue Zhi Hui

A7.8 Yue Zhi Hui is the core engine of the “one network unified management for provincial governance”. It is developed as an integrated information platform to support urban operation, management and services, making use of cutting-edge technologies such as the Internet of things, big data, AIs and 5G mobile communications. Yue Zhi Hui is composed of six centres with the respective functions of overall planning, coordination and linkage, control and command, supervision and management, specific application enablement, and platform management. These functions support (a) real-time detection and comprehensive analysis of the overall situation of the province; (b) coordinated governance in government affairs with respect to areas such as resource deployment, integrated command, supervision and management, and decision making; and (c) early warning and emergency response management.

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Note: ^ Internet resources listed in this section were accessed in February 2023.